WE CLAIM:

1. A microelectronic assembly comprising:

a substrate formed of a transparent material,

an integrated circuit die having an active face facing said substrate, said active face including a central region and a perimeter region about the central region,

a plurality of bump interconnections attaching said integrated circuit die to said substrate such that said active face is spaced apart from the substrate by a gap,

a polymeric encapsulant about said integrated circuit die on said substrate and extending within the gap to encapsulate the bump interconnections, and

an optical window defined by said encapsulant within said gap between said central region and said substrate.

2. A microelectronic assembly in accordance with claim 1 wherein said integrated circuit device comprises a rear face opposite said active face, and wherein the polymeric encapsulant is a molded body overlying the rear face.

3. A microelectronic assembly in accordance with claim 1 wherein he central region of said die comprises an optical feature adapted for detecting or emitting optical signals through said substrate.

4. A microelectronic assembly in accordance with claim 1 wherein the polymeric encapsulant is opaque.

5. A microelectronic assembly in accordance with claim 1 wherein the substrate is formed of glass.

6. A microelectronic assembly in accordance with claim 1 wherein the polymeric encapsulant is composed of an epoxy polymer and comprises an inorganic particulate filler.

7. A microelectronic assembly in accordance with claim 1 wherein the substrate is formed of glass and wherein the polymeric encapsulant exhibits a coefficient of thermal expansion between about 6 and 10 ppm per C.

8. A microelectronic assembly in accordance with claim 1 wherein the bump interconnections are bonded to the die at said perimeter region and to said substrate.

9. A microelectronic assembly comprising

a glass substrate,

an integrated circuit die having an active face facing said substrate and a rear face opposite the active face, said active face including a central region and a perimeter region about the central region,

a plurality of solder bump interconnections attaching said integrated circuit die to said substrate, wherein the active face is spaced apart from the substrate by a gap,

an overmolded polymeric encapsulant about said integrated circuit die on said substrate and overlying the rear face of the integrated circuit die, said overmolded polymeric encapsulant extending within the gap to encapsulate the bump interconnections, said encapsulant being formed of a polymeric and

an optical window defined by said overmolded polymeric encapsulant within said gap between said central region and said substrate.

10. A method of forming a microelectronic assembly comprising

attaching a integrated circuit die to a substrate by a plurality of bump interconnections, said integrated circuit die comprising an active face facing said substrate spaced apart by a gap and having a central region and a perimeter region surrounding said central region,

forming a polymeric material about said integrated circuit die on said substrate to form a polymeric encapsulant, said forming being carried out to cause said polymeric material to flow within said gap to encapsulate the bump interconnections and to prevent flow of polymeric material within the gap adjacent the central region to thereby define an optical window between said integrated circuit die and said substrate.

11. A method in accordance with claim 10 wherein said forming comprises molding the polymeric material about the die on the substrate.

12. A method in accordance with claim 10 wherein said integrated circuit die comprises an rear face opposite said active face and wherein said forming step includes molding the polymeric material to overlie said rear face.

13. A method in accordance with claim 10 wherein the central region of said integrated circuit die includes an optical element adapted to detect or receive optical signals through said substrate.

14. A method in accordance with claim 10 wherein the polymeric encapsulant is opaque.

15. A method of forming a microelectronic assembly comprising

attaching a integrated circuit die to a substrate by a plurality of bump interconnections, said integrated circuit die comprising an active face facing said substrate spaced apart by a gap and having a central region and a perimeter region surrounding said central region,

arranging a mold on said substrate such that the mold and the substrate cooperate to form a molding cavity about the integrated circuit die,

injecting a polymeric material into said molding cavity while applying a pressure at a first value effective to initiate flow of said polymeric material into said gap adjacent said perimeter,

reducing the pressure applied to said polymeric material within said molding cavity to a second value less than the first value and sufficient to restrict flow of said polymeric material within the gap to said perimeter region, thereby preventing the polymeric material from flowing into the gap adjacent the central region, and

curing the polymeric material to form an encapsulant, whereby the encapsulant defines an optical window within the gap adjacent the central region.

16. A method in accordance with claim 15 wherein the first value is greater than about 350 and 750 psi.

17. A method in accordance with claim 15 wherein the second value is less than about 150 psi.

18. A method in accordance with claim 15 wherein is the polymeric material comprises a particulate filler and a curable epoxy polymer compound.

19. A method in accordance with claim 15 wherein the polymeric material comprises an epoxy polymer compound, and wherein the step of curing the polymeric compound comprises heating the epoxy compound within said mold.